Amendment(s) to the Claims

The following listing of claims replaces all prior versions and listings of claims in the present application:

Listing of Claims:

Claim 1 (amended): A system for improving the adhesion between thermoplastic polyolefin elements and a surface coating, comprising:

an adhesion promoter;

a device for mixing an amount of said adhesion promoter ~~and~~ with de-ionized water to form a mixture;

a storage device for receiving and storing a supply of said mixture;

an enclosure for providing a protected environment for applying said mixture to said thermoplastic polyolefin elements;

a cleaning device for removing contaminants from said thermoplastic polyolefin elements prior to application of said mixture;

an adhesion promoter application device within said enclosure for ~~applying~~ flowing said mixture ~~to~~ over said thermoplastic polyolefin elements;

a pump for supplying said mixture to said application device;

an atmosphere controller for regulating the atmosphere within said enclosure;

a drying device for drying said mixture after application to said thermoplastic polyolefin elements; and

a transport device for passing said thermoplastic polyolefin elements through said system;

wherein said adhesion promoter application device operates to minimize agitation of said mixture during application thereof to said thermoplastic polyolefin elements, thereby reducing or eliminating defects in a dried layer of adhesion promoter that remains on said thermoplastic polyolefin elements after said thermoplastic polyolefin elements pass through said drying device.

Claim 2 (original): The system of claim 1, wherein said adhesion promoter consists essentially of :

a grafted polypropylene chloride;

an amine-neutralized water-soluble resin; and

a wettability-improving agent.

Claim 3 (original): The system of claim 1, wherein said application device has at least one nozzle for directing a supply of said mixture onto said thermoplastic polyolefin elements.

Claim 4 (original): The system of claim 3, wherein the flow rate of said mixture through said at least one nozzle can be regulated.

Claim 5 (original): The system of claim 1, wherein said application device has a supply device, located within said enclosure, for holding a supply of said mixture.

Claim 6 (original): The system of claim 5, wherein at least one nozzle is mounted to said supply device and is in communication with said mixture located therein for directing a supply of said mixture onto said thermoplastic polyolefin elements.

Claim 7 (original): The system of claim 6, wherein the flow rate of said mixture through said at least one nozzle can be regulated.

Claim 8 (amended): The system of claim ~~1~~ 5, further comprising a tank for receiving an amount of said mixture from said storage device and transferring at least a portion thereof to said supply device.

Claim 9 (original): The system of claim 8, wherein said mixture is transferred from said tank to said supply device via gravity.

Claim 10 (original): The system of claim 1, further comprising a heat exchanger for adjusting the temperature of said mixture prior to its application to said thermoplastic polyolefin elements.

Claim 11 (original): The system of claim 1, further comprising a re-circulation pump for re-circulating the mixture through said storage device.

Claim 12 (original): The system of claim 11, wherein said mixture is re-circulated through a filter.

Claim 13 (amended): The system of claim ~~1~~ 10, further comprising a filter between said storage device and said heat exchanger.

Claim 14 (original): The system of claim 1, wherein said enclosure also houses said cleaning device, said cleaning device occurring prior to said application device with respect to the path of travel of said thermoplastic polyolefin elements.

Claim 15 (original): The system of claim 14, further comprising at least a partial seal for separating said enclosure portion housing said cleaning device from said enclosure portion housing said adhesion promoter application device.

Claim 16 (original): The system of claim 15, wherein said at least a partial seal is an air seal.

Claim 17 (original): The system of claim 1, wherein said drying device is connected to said enclosure.

Claim 18 (original): The system of claim 17, further comprising at least a partial seal for separating said enclosure portion housing said adhesion promoter application device from said drying device.

Claim 19 (original): The system of claim 18, wherein said at least a partial seal is an air seal.

Claim 20 (original): The system of claim 1, wherein the amount of said adhesion promoter mixed with said de-ionized water is regulated by a metering device.

Claim 21 (original): The system of claim 20, wherein a surface tension meter is adapted to analyze a wet sample of said mixture, said surface tension meter further adapted to communicate with said metering device for providing regulation of the amount of said adhesion promoter added to said de-ionized water based on said analysis.

Claim 22 (amended): The system of claim ~~1~~ 10, further comprising a chiller for supplying chilled water to said atmosphere controller and said heat exchanger.

Claim 23 (amended): The system of claim ~~1~~ 10, further comprising a boiler for supplying heated water to said atmosphere controller and said heat exchanger.

Claim 24 (amended): An adhesion promoter application system, comprising:

a device for ~~creating a mixture of~~ mixing an adhesion promoter ~~and~~ with de-ionized water to form a mixture;

an enclosure for providing a protected environment during application of said mixture to thermoplastic polyolefin elements located therein;

an adhesion promoter application device within said enclosure for ~~applying~~ flowing said mixture ~~to~~ over said thermoplastic polyolefin elements;

a pump for supplying said mixture to said application device; and

an atmosphere controller for regulating the atmosphere within said enclosure;

wherein at least the angle and velocity at which said adhesion promoter application device applies said mixture to said one or more thermoplastic polyolefin elements is regulated;

whereby said adhesion promoter application device operates to minimize agitation of said mixture during application thereof to said thermoplastic polyolefin elements, thereby reducing or eliminating defects in a dried layer of adhesion promoter that remains on said thermoplastic polyolefin elements after said thermoplastic polyolefin elements pass through said drying device.

Claim 25 (original): The application system of claim 24, further comprising a storage device for receiving and storing a supply of said mixture.

Claim 26 (original): The application system of claim 25, further comprising a re-circulation pump for re-circulating said mixture through said storage device.

Claim 27 (original): The application system of claim 26, wherein said mixture is re-circulated through a filter.

Claim 28 (amended): The application system of claim ~~24~~ 25, further comprising a tank for receiving an amount of said mixture from said storage device.

Claim 29 (original): The application system of claim 24, further comprising a cleaning device for removing contaminants from said thermoplastic polyolefin elements prior to application of said mixture.

Claim 30 (original): The application system of claim 29, wherein said enclosure also houses said cleaning device, said cleaning device occurring prior to said application device with respect to a path of travel of said thermoplastic polyolefin elements.

Claim 31 (original): The system of claim 30, further comprising at least a partial seal for separating the portion of said enclosure housing said cleaning device from the portion of said enclosure housing said adhesion promoter application device.

Claim 32 (original): The system of claim 31, wherein said at least a partial seal is an air seal.

Claim 33 (original): The application system of claim 24, further comprising a drying device for drying said mixture after application to said thermoplastic polyolefin elements.

Claim 34 (original): The application system of claim 33, wherein said drying device is connected to said enclosure.

Claim 35 (original): The application system of claim 34, further comprising at least a partial seal for separating the portion of said enclosure housing said adhesion promoter application device from said drying device.

Claim 36 (original): The application system of claim 35, wherein said at least a partial seal is an air seal.

Claim 37 (original): The application system of claim 24, further comprising a transport device for passing said thermoplastic polyolefin elements through said mixture delivered by said application device.

Claim 38 (original): The application system of claim 24, wherein said application device comprises at least one nozzle for directing a supply of said mixture onto said thermoplastic polyolefin elements.

Claim 39 (original): The application system of claim 38, wherein the flow rate of said mixture through said at least one nozzle can be regulated.

Claim 40 (original): The application system of claim 24, wherein said application device has a supply device, located within said enclosure, for holding a supply of said mixture.

Claim 41 (original): The application system of claim 40, wherein said mixture is transferred from a holding tank to said supply device via gravity.

Claim 42 (original): The application system of claim 40, wherein at least one nozzle is mounted to said supply device and is in communication with said mixture located therein for directing a supply of said mixture onto said thermoplastic polyolefin elements.

Claim 43 (original): The application system of claim 42, wherein the flow rate of said mixture through said at least one nozzle can be regulated.

Claim 44 (original): The application system of claim 24, further comprising a heat exchanger for adjusting the temperature of said mixture prior to its application to said thermoplastic polyolefin elements.

Claim 45 (original): The application system of claim 44, further comprising a filter for removing contaminants from said mixture prior to entrance into said heat exchanger.

Claim 46 (original): The system of claim 44, further comprising a chiller for supplying chilled water to said heat exchanger.

Claim 47 (original): The system of claim 44, further comprising a boiler for supplying heated water to said heat exchanger.

Claim 48 (original): The application system of claim 24, wherein the amount of said adhes

Claim 49 (original): The application system of claim 48, wherein a surface tension meter is adapted to analyze a wet sample of said mixture, said surface tension meter further adapted to communicate with said metering device for providing regulation of the amount of said adhesion promoter added to said de-ionized water based on said analysis.

Claim 50 (original): The system of claim 24, further comprising a chiller for supplying chilled water to said atmosphere controller.

Claim 51 (original): The system of claim 24, further comprising a boiler for supplying heated water to said atmosphere controller.